ENGINEERING SUCCESS **TOGETHER**

November 02, 2016

Mr. Hans Larsen, Executive Director
Town of Wellesley
525 Washington Street
Wellesley, MA 02482

Attn.: Meghan Jop, Deputy Director

Re: Babson College – Webster Athletic Center Traffic Review

Dear Mr. Larsen:

As requested, BETA Group, Inc. (BETA) has reviewed the Traffic Impact and Access Study (TIAS) for the proposed Webster Athletic Center Renovation and Expansion on the Babson College campus, located near the intersection of Wellesley Avenue and Forest Street. The TIAS was prepared by the Transportation Engineering, Planning and Policy (TEPP), dated October 7, 2016. Babson College (the Applicant) has proposed the renovation and expansion of the existing Webster Athletic Center located at 3 Babson College Drive. The project will remove and relocate eight (8) existing tennis courts to further expand the existing athletic center. Based on the site plan, the existing tennis courts will be replaced with a gymnasium large enough for three basketball courts and greenspace with landscaping and pedestrian pathways. The TIAS did not specify the location of the relocated tennis courts.

The TIAS explained that the Applicant will not increase student enrollment or faculty/staff employment as a result of the Athletic Center expansion. Further, the Applicant does not expect this project will increase traffic to and from Babson College.

TRAFFIC VOLUMES

For the purposes of the TIAS, TEPP collected traffic volumes via Automatic Traffic Recorder (ATR) on Wellesley Avenue, Forest Street, and both Babson College driveways between Tuesday, September 27th and Wednesday, September 28th, 2016. Turning Movement Counts (TMC) were collected at both Babson College Driveways as well as the intersection of Wellesley Avenue at Forest Street on Tuesday, September 27th, 2016. The TMC were collected between 7:00-9:00AM and 4:00-6:00PM. BETA finds the data collected to be acceptable.

1. BETA notes that only peak hour TMC sheets were provided in the Appendix of the TIAS, and requests Applicant's traffic consultant provide all of the traffic data collected for Town record.
2. The peak hour traffic volumes displayed in Table 1 do not match those provided in the backup ATR data sheets. Despite the discrepancy, the volumes provided in Table 1 appear to be conservative.

BETA notes that the traffic volumes were collected during the construction period and subsequent bridge closure of the Central Avenue/Elliot Street Bridge in Needham/Newton. The bridge closure may have impacted the traffic data collection due to changed travel patterns. A comparison of Average Daily Traffic

(ADT) in vehicles per day (vpd) between data presented in the Applicant's February 6, 2016 TIAS regarding the proposed College Residence Hall (2012) and the current TIAS (2016) is provided in Table 1.

Table 1: ADT Comparison

Roadway	2012	2016
Forest Street	5,023	6,109
Wellesley Avenue	8,709	7,878

Based on data presented in the table, traffic volumes increased on Forest Street but decreased on Wellesley Avenue. The decrease in Wellesley Avenue vehicles may be attributed to congestion at the intersection of Wellesley Avenue and Hunnewell Avenue.

Seasonal Factors were examined to determine if existing volumes should be adjusted. BETA notes that the seasonal factors sheet used for the TIAS is outdated, and has appended an updated sheet to this letter. BETA notes that the information provided in the updated seasonal factor sheet is consistent with information provided in the TIAS. As a result, the seasonal factors discussion provided in the TIAS is acceptable.

Sight Distance

The traffic speeds on Wellesley Avenue and Forest Street were found to be 8 miles per hour (mph) higher than the posted/prima facie speed limits of 30 mph. BETA notes that these speeds are consistent with the speeds previously reported in the Applicant's February 6, 2016 TIAS regarding the proposed College Residence Hall. Despite the higher than desired travel speeds, the Babson College driveways were found to have adequate Stopping Sight Distance provided roadside vegetation is continually trimmed. BETA finds the sight distance analysis to be acceptable.

Crash History

The Applicant's traffic consultant examined MassDOT crash characteristics for all three study intersections/driveways for the most recent three years (2012-2014) of available data. It was noted that eight (8) crashes occurred at the intersection of Wellesley Avenue at Forest Street over the three years. Only one of these eight crashes resulted in injury. Despite the eight recorded crashes, the intersection was found to have a crash rate (0.50) below the MassDOT statewide (0.58) and district (0.53) average crash rates. BETA finds the discussion on crash history to be acceptable.

Future Conditions

The existing 2016 traffic volumes were inflated by 1.0 percent per year for seven years (approximately 7.2%) to reflect projected 2023 traffic conditions. BETA finds this methodology to be acceptable, but notes that some of the volumes provided in Figure 4 are larger than the discussed traffic growth. Despite the discrepancy, the larger volumes are more conservative and thereby acceptable.

The TIAS did not examine any increase in site related traffic, since the proposed renovations and expansion will not increase student enrollment or staff employment.

3. The Applicant should verify if the proposed athletic facility will increase activities that may generate additional vehicle trips. These may include increases in sporting events (varsity, intramurals, and

clubs), camps, or conferences that may otherwise attract more people on-campus than previously generated.

TRAFFIC ANALYSIS

The TIAS discussed existing and future traffic conditions at the three study area intersections/driveways. According to the Level of Service (LOS) traffic analysis, the intersection of Wellesley Avenue at Forest Street operates with poor conditions in the morning (LOS E) and evening (LOS D). The eastbound and westbound approaches of Wellesley Avenue were found to operate with failing conditions (LOS F) in the morning peak hour, with the eastbound approach operating over capacity (v/c > 1).

The addition of traffic growth in the area increases delays and queues at the Wellesley Avenue at Forest Street intersection. This was found to bring both Wellesley Avenue approaches over capacity with LOS F. The traffic growth also causes Forest Street to operate with LOS F. In the evening peak hour, both Wellesley Avenue approaches degrade to LOS F, with the westbound approach operating over capacity. These degradations in delay, LOS, and volume to capacity ratio (v/c) are resultant of traffic growth, since no additional trips are generated by the proposed renovation and expansion.

To minimize or reduce traffic impacts in the area, the Applicant commits to employing TDM measures such as: shuttle services throughout the week, providing carpool spaces to promote carpooling, and expanding bicycle parking/storage facilities to promote bicycling.

If we can be of any further assistance regarding this matter, please contact us at our office.

Very truly yours,
BETA Group, Inc.

Kien Ho, P.E., PTOE
Vice President

cc: Name, Title
Job No: 5475-01